

Appln. No.: 10/522,044
Amendment Dated April 12, 2007
Reply to Office Action of January 24, 2007

PC10483US

Amendments to the Drawings:

Please replace the drawing sheet containing Fig. 1 with the attached replacement drawing sheet (now Sheet 1 of 1).

Please cancel drawing sheets 2 and 3 containing Figs. 2 and 3 without prejudice.

Attachment

Remarks/Arguments:

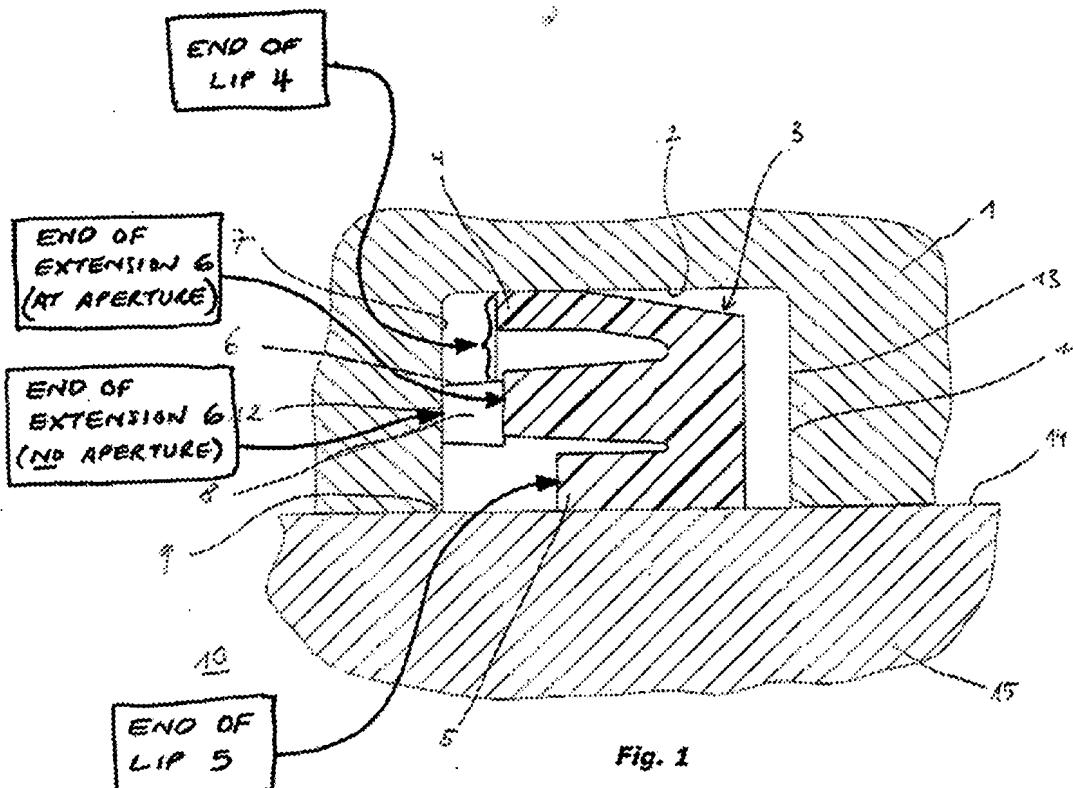
Claims 15-26 are pending in the application. In the Office Action dated January 24, 2007 ("Office Action"), Applicant's Figure 1 was considered objectionable under 37 C.F.R. § 1.121. The specification was also considered objectionable for allegedly introducing new matter. Claim 21 was considered insufficient to meet the written description requirement under 35 U.S.C. § 112, first paragraph. Claims 15-26 were considered indefinite under 35 U.S.C. § 112, second paragraph. Lastly, claims 15-20 and 22-26 were considered anticipated by U.S. Patent No. 4,602,791 ("Zollner") under 35 U.S.C. § 102(b).

The Office Action and references cited therein have been carefully considered. Based on the foregoing amendments and the following remarks, Applicants respectfully traverse the objections and rejections.

Drawings

Figure 1 is objected to based on an apparent misunderstanding of the three-dimensional view and circular geometry depicted in the drawing. Applicant respectfully submits that the features are clear and should require no additional explanation. To further prosecution, Applicant has amended the specification and drawing to identify the vertical extension line extending from circumferential lip 4, which represents the free end of the lip visible behind the plane where the section is taken. For added explanation, Applicant is reproducing the prior version of Figure 1 with appropriate labeling below:

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The above figure identifies the free ends of the lips 4, 5 and the free end of the extension 6. The free ends of lips 4, 5 are labeled 40 and 50, respectively, in the corrected drawing sheet. Free end 12 of extension 6 is already labeled. Note that free end 12 of extension 6 does not contact the groove wall 7 in the cross-sectional plane, because of the aperture. In planes beyond the cross-section, the aperture ends, and free end 12 becomes contiguous with groove wall 7.

In response to the questions raised in the Office Action, Applicant replies as follows:

Q: "It is unclear as to how 8 corresponds to the extension because it is off center."

A: Reference number 8 refers to the aperture, not the extension 6 (see specification).

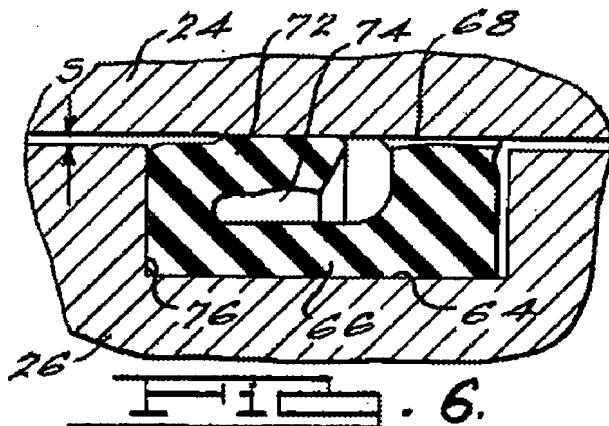
Q: "It is also unclear as to where the extension ends because the aperture labeled as 8 is off-centered from the extension"

A: The location of the free end of the extension 6 depends on the cross-section. At sections containing an aperture, the extension 6 ends short of the groove wall 7. At sections that do not contain an aperture, the extension 6 ends contiguous with the groove wall 7. The aperture is not "off-centered" from the extension. The aspect that appears to be off-centered is a plane where the groove ends. Sealing collar 3 has a circular geometry, and the extension 6 and lips 4, 5 turn through a radius to follow the circular geometry. Therefore, one skilled in the art who views the sealing collar in cross section will expect there to be some angular offset in the drawing to show the cross-sectional plane, and other planes that are visible beyond the cross-sectional plane. The plane where the aperture 8 ends is not "off-centered", but rather angularly offset from the plane through the cross-section. The staggered shape represents the plane where the aperture ends, and where the non-apertured portion of extension 6 begins.

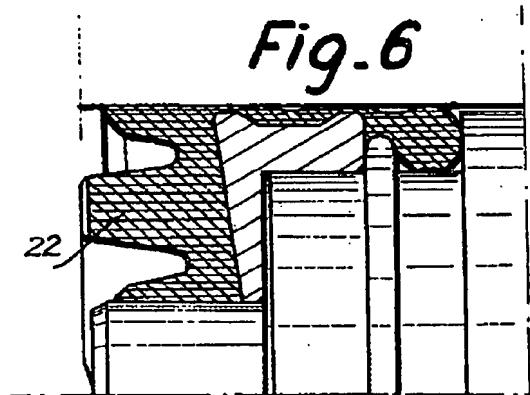
Q: It is also unclear as to what the extra line connecting the outside lip 4 and the aperture 8 in Fig. 1 is for, the line must be identified . . . or the line must be removed

A: The line that appears to connect lip 4 and extension 6 represents the free end of lip 4. This free end is now labeled in the drawing and described in the specification as free end 40. It is shown as an "extension line" to reflect that the free end 40 makes a continuous turn as it extends in a circular manner. Omitting this line would be misleading because the lip 4 would no longer be depicted as a circumferential lip that extends continuously through the radius.

Applicant submits that the staggered features and extension lines would be readily understood to persons skilled in the art to represent a circular geometry viewed in cross-section. In point of fact, staggered features and extension lines are used in drawings of circular seals shown in the art previously disclosed in Applicant's IDS. Applicant has reproduced two figures from U.S. Patent Nos. 2,778,695 and 3,037,781, which show staggered features and extension lines on circular seals:



USPN 2,778,695



USPN 3,037,781

Based on the foregoing, Applicant respectfully requests that the drawing objection be reconsidered.

The drawing sheets containing Figs. 2 and 3 (Sheets 2/3 and 3/3) have been cancelled without prejudice.

Specification

Applicant has amended the specification to identify free ends 40, 50 of the outer lip 4 and inner lip 5, respectively. The specification makes multiple references to the free ends of the lips. Therefore, no new matter has been added.

The specification is also amended to remove reference to Figs. 2 and 3 in the Brief Description of the Drawings. Therefore, the issues raised with specification are believed to be resolved.

Claim Rejections - 35 U.S.C. § 112

With regard to the rejection under 35 U.S.C. § 112, first paragraph, claim 21 has been cancelled without prejudice.

Regarding the rejections under 35 U.S.C. § 112, second paragraph, Applicant submits that claims 15, 16 and 24 clearly describe the extension. Details regarding where the extension ends are provided above in connection with the drawing objection. Please note that Fig. 1 only illustrates an embodiment of the claimed invention.

Claim 15 has been amended to replace the language "being configured for insertion" with "inserted" as suggested by the Office Action.

Claims 16 and 24 have been amended to delete the word "being" from the phrase "being received", as suggested in the Office Action.

Applicant submits that the concerns raised under 35 U.S.C. § 112, second paragraph are resolved.

Claim Rejections - 35 U.S.C. § 102

Applicant disagrees with interpretation given to Zollner, and particularly the assertion that Zollner discloses a groove that is recessed in an interior wall surface of the cylinder or in an exterior wall surface of the piston. No such recess is shown in Zollner. The Office Action uses an extremely broad interpretation of the term "groove" as referring to an empty space, e.g. the space inside sleeve 5. Applicant submits that if the term "groove" can encompass any empty space, the term is meaningless. All objects are surrounded by empty space. Under the broad interpretation used in the Office Action, this would mean that all objects have grooves or are in grooves.

More importantly, the interpretation ignores the language in claims 16 and 24, which recite "a groove that is recessed in an interior wall surface of the cylinder . . ." The sealing collar must not only be received in a "space", but must be received in a groove that is recessed in a wall surface. The Office Action's interpretation of "groove" eviscerates all meaning of the phrase "recessed", and renders the language "in an interior wall surface" superficial. The interpretation of Zollner is overly broad and disregards Applicant's claim language. Based on the foregoing, Applicant submits that claims 16 and 24 are not anticipated by Zollner.

Claim 15 has been amended to recite "the sealing collar received in a groove that is recessed in an interior wall surface of the cylinder or in an exterior wall surface of the piston", similar to claims 16 and 24. Therefore, claim 15 is now believed to be allowable over Zollner for at least the same reasons that claims 16 and 24 are allowable.

Claims 17-20, 22 and 23 are dependent on claim 16 and incorporate all the features of claim 16. Therefore, claims 17-20, 22 and 23 are believed to be allowable over Zollner for at least the same reasons that claim 16 is allowable.

Claims 25 and 26 are dependent on claim 24 and incorporate all the features of claim 24. Therefore, claims 25 and 26 are believed to be allowable over Zollner for at least the same reasons that claim 16 is allowable.

Response to Arguments

The Office Action finds that it is unclear whether there is a circular geometry depicted for extension 6 in Fig. 1.

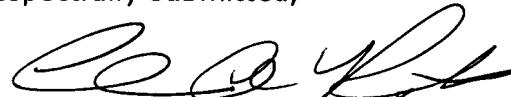
This statement ignores the entire contents of the specification. The specification clearly states: "The extension indicated hereinabove as being circumferential will then be decomposed into single extensions being placed on a circumferential **circle** . . ." (Spec., p.5 lines 1-5). The subject matter is a sealing **collar**, which is commonly understood to be a circular ring. The sealing collar is described in a **cylinder** and piston unit. Cylinders have circular cross sections. The extension is described as "**circumferential**" and positioned "**radially between**" first and second sealing lips (p. 3 lines 9-13). The circular shape of the extension is clear.

The Office Action can not review a drawing in a vacuum. The drawing must be reviewed in conjunction with the written description. If there is any doubt about what a drawing conveys, the analysis must at least consider what the specifications says about the drawing. In the instant matter, Applicant respectfully submits that the objections and rejections which express doubts about the shape of the extension 6 are unfounded.

Conclusion

Based on the foregoing amendments and remarks, Applicant respectfully submits that the application is now in form for allowance. If the Examiner has any concern which precludes allowance at this time, the Examiner is encouraged to contact the undersigned attorney at 610-407-0700 to discuss any such concern.

Respectfully submitted,



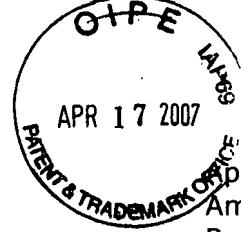
Robert P. Seitter, Reg. No. 24,856
Christopher A. Rothe, Reg. No. 54,650
Attorneys for Applicants

RPS/CAR/dhm

Attachment: 1 drawing sheet

Dated: April 13, 2007

P.O. Box 980
Valley Forge, PA 19482
610-407-0700



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